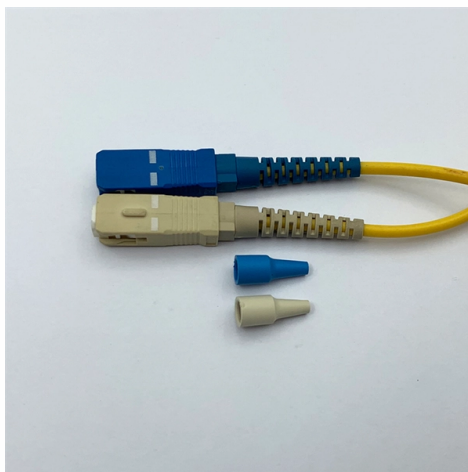


Compatible Silicon Photonics Co-packaged Photonics Supplier in Spain



Overview

Co-Packaged Optics Supply Chain — Interactive Map (2026) Interactive guide to the co-packaged optics (CPO) supply chain: InP laser, hybrid bond, silicon pho.

Key Takeaways

While Spain has limited direct silicon photonics foundries, global suppliers with compatible CPO solutions can be sourced and integrated locally through design and assembly partners. Overview of Silicon Photonics and CPO

Silicon photonics (SiPh) is a platform for photonic integrated circuits (PICs) using silicon-on-insulator (SOI) wafers, enabling high-bandwidth optical interconnects for data centers, AI computing, and sensing applications . Co-packaged optics (CPO) integrates these photonic engines directly with switch ASICs or processors, reducing electrical interconnect lengths, power consumption, and latency . CPO solutions often require hybrid integration with external lasers or modulators, micro-optics, and optical interposers .

Global Suppliers Relevant to Spain

Although Spain does not host major silicon photonics foundries, several European and global suppliers provide components and services compatible with CPO integration:

- Tower Semiconductor (Israel/Europe): Open-access silicon photonics foundry capable of producing custom PICs suitable for CPO applications .

- POET Technologies (Canada/Europe partners): Optical interposer platforms for integrating lasers and modulators onto silicon photonics chips .
 - Sivers Semiconductors (Sweden): CW DFB laser dies compatible with silicon photonics for co-packaged optics .
 - Himax Technologies (Taiwan/Europe): Micro-lens arrays for optical coupling in CPO modules .
 - ASMPT (Global, with European support): Provides CPO assembly solutions, integrating photonic ICs with electronic ICs and optical components .
- Local Integration Options in Spain

For companies in Spain seeking CPO or silicon photonics integration, the typical approach is:

- Design and prototyping: Collaborate with global foundries (e.g., Tower Semiconductor) to design PICs.
- Assembly and packaging: Partner with European photonics assembly houses or electronics packaging companies capable of handling optical engines and micro-optics.
- Testing and deployment: Utilize local test labs or European service providers for optical and electrical validation before integration into data center or AI infrastructure.

Considerations for Compatibility

- Active vs. passive PICs: Active chips include modulators and photodetectors; passive chips only contain waveguides and splitters . Ensure the supplier supports the required integration type.
- Laser integration: Silicon cannot emit light efficiently; external or hybrid-bonded lasers are required for CPO. Suppliers like Sivers or POET provide compatible solutions .
- Thermal management: Co-packaged optics generate heat near ASICs; suppliers must provide thermal solutions compatible with your system.
- Standards and interfaces: Verify compatibility with switch ASICs, SerDes, and optical DSPs, especially for AI data center applications .

Recommended Approach

- Identify the required PIC functionality (modulators, detectors, wavelength multiplexing).
- Select a foundry or supplier with European support for design and fabrication.
- Engage a local or regional assembly partner for optical engine integration.

- Validate CPO performance with test and measurement services before deployment. By leveraging global silicon photonics suppliers and European integration partners, companies in Spain can access compatible co-packaged photonics solutions for high-speed optical networking and AI infrastructure.

Article Content

The Silicon Photonics & Co-Packaged Optics supply chain

Roughly fifteen specialist industries have to coordinate to build a single co-packaged module, and at least six of them

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In co-packaged optics, all the elements of the transceivers, now designated as photonic engines and comprising lasers, modulators,

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